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Exploring Barriers to Access Prenatal Care Among Indigenous Mexican and Guatemalan Women in Washington State

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Abstract

Migrant and Seasonal Agricultural Workers including indigenous women that are not of Hispanic descent face many barriers to access prenatal care. We conducted a survey in Spanish and three indigenous languages to explore knowledge, attitudes and behaviors regarding prenatal care among 82 female agricultural workers, Mixteco, Triqui and Awakateko, residing in the State of Washington. Our findings highlight the importance of collecting disaggregated data from different indigenous communities and of providing indigenous language support. Our study provides new information for developing messages to promote prenatal care that take into account the knowledge and beliefs that are prevalent in these communities.

Keywords

indigenous immigrants from Mexico and Guatemala; barriers to accessing health care; beliefs regarding prenatal care; survey

Introduction

Migrant and Seasonal Agricultural Workers (MSAWs) face many barriers to access health care, ranging from poverty and lack of health insurance to long work hours, lack of transportation and language and cultural barriers (Farquhar, Shadbeh, Samples, Ventura, & Goff, 2008; Hansen & Donohoe, 2003; A. E. Maxwell et al., 2015). Indigenous agricultural workers that are not of Hispanic or Latino descent and have their unique cultural and

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Competing Interests

No competing interests were reported by the authors of this paper.

Ethics approval

The study was approved by the Sea Mar Institutional Review Board.

linguistic traditions tend to be the poorest and least educated among all agricultural workers. At the bottom rung of the agricultural labor force, they experience the highest health inequities and barriers to access health care (Mines, 2010). Studies conducted in Mexico and Guatemala (Ibanez-Cuevas, Heredia-Pi, Meneses-Navarro, Pelcastre-Villafuerte, & Gonzalez-Block, 2015; Loewenberg, 2010; Stollak, Valdez, Rivas, & Perry, 2016) and in the United States (A. E. Maxwell, Young, Moe, Bastani, & Wentzell, 2018; Mines, 2010; Sanchez, 2017; Villarejo et al., 2010) suggest that these communities rely heavily on traditional healers and home remedies.

In general, women who receive prenatal care have a lower rate of maternal and infant mortality as well as better pregnancy outcome, and the utilization of prenatal care is correlated with a higher mean birth weight and gestational age (Alexander & Cornely, 1987; Servan-Mori, Sosa-Rubi, Najera-Leon, & Darney, 2016). For example, a recent analysis of data from four waves of the National Survey of Demographic Dynamics conducted in Mexico between 1997 and 2018 assessed women's receipt of the continuum of maternal health care, which includes eight indicators: receipt of antenatal care (ANC); ANC provided by a doctor or nurse; initial ANC visit attended during the first 8 weeks of pregnancy; at least five ANC visits attended; adequate ANC services; childbirth attended by a doctor or nurse and post-natal care received during the first 15 days after delivery. The study determined that indigenous women were significantly less likely to experience a continuum of care than non-indigenous women. In addition, a greater proportion of indigenous women reported a history of still-births or child mortality within the first year of life (6.6%, 95% CI: 5.1–8.2) than non-indigenous women (3.6%, 95% CI: 3.1–4.1) (Servan-Mori et al., 2021). For a population like indigenous MSAWs, receipt of prenatal care may also provide women an opportunity to engage with the health system, to better understand the US health system, to enroll their baby in well child visits and to seek follow-up care for themselves.

However, according to providers, many indigenous women do not utilize prenatal services that are offered by Sea Mar in a timely fashion. Many women do not come into the clinic until late in their first or second trimester for prenatal care. Therefore, Sea Mar Community Health Center's MSAW Promotores Program and the Community Health Workers Coalition for Migrants and Refugees partnered to identify barriers faced by indigenous MSAWs to access prenatal care in Skagit and Whatcom counties. This will facilitate the development of culturally appropriate interventions to promote early (first trimester) prenatal care visits among indigenous women.

Methods

Study setting

This study was conducted in partnership with Sea Mar Community Health Centers, a community-based organization committed to providing quality, comprehensive health, human and housing services to diverse communities. In Skagit and Whatcom counties, Sea Mar has a dedicated program, the MSAW Promotores Program, that provides health services and outreach to MSAWs and their families in Skagit and Whatcom County with the help of trained Latino and indigenous community health workers (*promotores*).

Indigenous MSAWs started to arrive in Skagit and Whatcom Counties in Northwest Washington about 30 years ago and now comprise a majority of agricultural workers. Of the approximately 30,000 farmworkers and dependents in the area, it is estimated that at least 60% are indigenous and many speak neither English nor Spanish. They are predominantly from Southern Mexico (Oaxaca, Guerrero and Puebla) with a high proportion of indigenous Guatemalan in Whatcom County. Currently, the majority of the indigenous population in Skagit speak Mixteco and Triqui languages. In Whatcom, the majority are Mixteco and there are at least seven different Guatemalan cultural communities (Awakateko, Mam, Chalchiteco, Ixil, K'anjobal, K'iche' and Chuj).

Washington State's Medicaid program is called Apple Health and provides coverage for pregnant individuals regardless of their citizenship or immigration status. Once enrolled in Apple Health for Pregnant Individuals, they are covered for at least 60 days after their pregnancy ends. Women whose Apple Health coverage ended after 60-day post-delivery are automatically enrolled in 10 months of Family Planning Only -Pregnancy Related Coverage regardless of how pregnancy ends (miscarriage, termination, or until baby is one year old). In addition, Sea Mar's Maternity Support Services (MSS program) provides support for pregnant and recently pregnant families. This program includes case managers and social workers who provide information, education and resources important for women, infants and families. They help with accessing medical, dental, behavioral health care, and other services as well as provide relevant health education and support on the importance of prenatal care, breastfeeding and accessing Women, Infants & Children (WIC) benefits among others. The MSS staff also connect pregnant and new mothers with state funded transportation vouchers for medical appointments.

Survey development and translation

Researchers, health professionals and *promotores* developed a survey on prenatal care utilization and related knowledge, attitudes and perceptions. Questions included basic demographic information; prenatal and childbirth history; barriers to accessing prenatal care; health care knowledge and beliefs; and women's local health care experience. Many of the questions were adapted from prior research in the indigenous community in California (A. E. Maxwell et al., 2015; A. E. Maxwell et al., 2018). Based on the experience from these prior studies and upon the advice from the *promotores*, the survey was kept short and simple, with many yes/no questions.

The survey was initially developed in English and then translated into Spanish. The Spanish survey was then discussed with six bilingual indigenous *promotores*, who spoke Spanish and at least one of three indigenous languages: Awakateko, Mixteco and Triqui. During this discussion, *promotores* further simplified the survey by breaking up long sentences to ensure comprehension. They replaced less familiar concepts and words with those universally understood by speakers of all three indigenous languages (ie, replaced this "study" with "these questions"). Sometimes it was necessary to create alternate versions of the same question to allow for unique cultural interpretation and understanding. An example is the concept of a cesarean section. The Triqui and Awakateko speakers agreed that the direct translation for this procedure will work (*cesarea*). However, the Mixtecos insisted on two

distinct versions - “in order for the baby to be born they have to open”, and “the cut is made so that the baby is born”. Although differences in phrasing appeared to be small, they were important issues for the speakers of different dialects. Since Mixteco dialects are unique to each town, and individuals from at least eight unique towns had been identified in the area, both translations were included in the survey. This review by the *promotores* and by an experienced survey researcher (AEM) established face validity of the survey.

Two *promotores* translated the survey from Spanish into Triqui and Awakateko. Three *promotores* who spoke four dialects were involved in the Mixteco translation. They wrote the translated sentence down in their indigenous language and then audio-recorded the entire survey to practice at home before conducting the survey. *Promotores* pilot-tested the near final versions of the survey with a few participants to insure clarity and logical sequence of the questions and the research team reviewed the completed pilot-surveys and debriefed the *promotores*.

Training of promotores

Sea Mar MSAW Promotores Program held one four-hour training session in Spanish on the importance of prenatal care and the purpose of the study and a follow-up training on the principles of research including voluntary participation, confidentiality, recruitment of participants, and how to obtain informed consent. The five female *promotores* who were selected to conduct the survey received additional group and one-on-one instructions on the interview process and how to conduct a survey, including role playing.

Survey administration

Promotores conducted surveys verbally face-to-face in Spanish, Mixteco, Triqui, and Awakateko in the urban and rural areas of Skagit and Whatcom counties in 2017. All indigenous women 18 years and older from these three indigenous groups who lived in the area year-round or who migrated annually were eligible to participate. *Promotores* recruited women from their social networks, explained that the survey was to learn about the health needs in the local Mixteco, Triqui and Awakateko communities, and obtained oral consent prior to administering each survey. They recorded participants' responses on Spanish-language surveys. Women who completed the survey received a \$20 incentive. We aimed to interview 80 women, based on the resources available for the study.

Statistical analysis

The statistical analysis was conducted in English. Descriptive statistics, including means and percentages were computed for each variable for the total sample and for 3 sub-groups: Mixteco, Triqui and Awakateko. Given the small sample size, we also report median and interquartile ranges. Answers to the single open-ended question “*What is the best care for a pregnant woman?*” were manually reviewed and coded into mutually exclusive categories (reported below). The study was approved by the Sea Mar Institutional Review Board.

Results

A total of 82 women completed the survey which took from 22 to 90 minutes per person (average 48 minutes). Almost all women who were invited to complete the survey agreed to do so.

Sample characteristics

As shown in Table 1, respondents ranged between 19 and 65 years of age with an average age of 36 years and came from three Mexican and Guatemalan indigenous communities: Mixteco (N=30), Triqui (N=26) and Awakateko (N=26). Sample characteristics varied among communities. More than half of all respondents had lived in the U.S. between 15 to 20 years, ranging from 81% of the Triqui community to 27% of the Awakateko community. The proportion of relatively recent immigrants (less than 5 years in the US) was highest among Awakateko, 54%. On average, respondents had attended school for five years. However, 26% of all women had not attended any school at all; ranging from 13% among Mixteco to 39% among among Triqui. Between 58% (Awakateko) and 96% of women (Triqui) reported speaking and reading Spanish. Between 70% (Mixteco) and 100% (Triqui and Awakateko) reported speaking their native languages, which are predominantly oral. Between 4% (Awakateko) and 40% (Mixteco) reported speaking and reading English. Although self-reports of Spanish speaking ability was generally high, the proportion of women who completed the survey in Spanish ranged from 34% of Triqui to 73% of the Mixteco respondents. Almost 90% of Triqui and Awakateko respondents reported an annual household income of \$25,000 or less, but 44% of Mixteco women reported more than \$25,000 per year. The proportion of women who had health insurance ranged from 27% among Triqui to 52% among Awakatekos.

As shown in Table 2, of the 82 respondents, 77 (94%) had been pregnant at least once. The mean number of pregnancies ranged from 3.1 for the Awakateko to 5.2 for the Triqui respondents. Only 5 Triqui women reported a cesarean section and ten out of 24 Triqui women reported 6 or more births. While the number of women who suffered miscarriages were relatively similar across all communities, only Triqui women reported babies who died within their first year of life. A majority of respondents across all communities reported receipt of prenatal care during their last pregnancy, whether it was in their native country, the US or both. Of those who received prenatal care, 82% had their first visit within the first four months of their pregnancy. Triqui and Awakateko women reported an average of 8 prenatal visits and Mixteco women an average of 10 visits. While the survey did not ask women about their age when they first accessed prenatal care for their last pregnancy, Table 2 shows the ages of respondents who stated they access prenatal care, and where, if at all. The average age of women who stated that they accessed prenatal care in the US was 30 to 34 years, while the average age of women who had never accessed prenatal care ranged from 44 to 55 years at the time of the survey.

Barriers to prenatal care

Barriers to prenatal care experienced by the 77 respondents who had been pregnant at least once are shown in Table 3. Structural barriers included lack of money and insurance to pay

for a visit; problems making an appointment due to limited language skills and/or phone access; lack of childcare, transportation and knowledge where to go; limited clinic hours and inability to miss work to seek medical care. In the total sample, between 23% and 8% endorsed these structural barriers and Awakateko were the most likely to endorse each of these barriers.

Cultural norms and practices may potentially serve as barriers to seek prenatal care. Half or more off all women endorsed statements that “back home, women don’t go to the doctor when pregnant”, “none of my friends go to the doctor for prenatal care” and “doctors here are not familiar with our customs regarding child birth.” The proportions of women who endorsed these statements varied widely among the three indigenous groups. For example, 17% of Mixteco women but 100% of Triqui women endorsed that none of their friends go to the doctor for prenatal care, a response that is not consistent with an earlier response that suggested that more than 90% of all women had received prenatal care for their last pregnancy. Substantial proportions of women believed that going to the doctor during pregnancy increases the risk of cesarean section (ranging from 15% of Awakateko to 35% of Triqui women) and the risk to have a big baby (ranging from 15% of Awakateko to 27% of Triqui women). These concerns were most prevalent among Triqui women.

As shown in Table 4, the majority of women thought it was very important for the baby’s and the mother’s health to go to the doctor during the first 3 months of a pregnancy, with slightly fewer Triqui women rating this as “very important”. The proportion of women who thought that the hospital is the ideal place to give birth ranged from 85% among Triqui women to 97% among Mixteco women. The proportion of women who preferred a female doctor ranged from 50% among Triqui to 67% among Mixteco women. Respondents’ knowledge of health care resources for pregnant women varied widely. While more than 80% of Mixteco women knew that pregnant women can get free health care, even without having a social security card, and that discount programs are available to them, Awakateko women were least aware of these resources.

All 82 respondents were asked an open-ended question on “What is the best care for a pregnant woman?” and most provided multiple answers. The most frequent responses for all women were to eat healthy or a certain diet (72%), to exercise or walk more (42%); to not carry heavy things (38%); to visit a doctor (28%); and to take prenatal vitamins (27%), although there were some variations among different communities.

Respondents were also surveyed about their local health care experiences, primarily regarding their communication with providers and satisfaction with other aspects of their health care visit.

Nineteen percent of Awakateko, 47% of Mixteco and 65% of Triqui women stated that they understood their provider. However, substantial proportions of all women reported that providers used words that were too difficult for them to understand (41%) and that they did not receive language support (37%). It should be noted that some but not all four clinics in the study area employ staff who speak a limited number of indigenous languages. Most respondents were satisfied with the advice they received at the clinic (79%) and the amount

of time the doctor or nurse spent with them (67%) and felt that they were treated with respect (76%). Only about half of all women were satisfied with the length of time they had to wait prior to seeing the provider (55%), with little variation among the three indigenous groups.

Discussion

We conducted one of the first surveys among female agricultural workers from three indigenous groups (Mixteco, Triqui, Awakateko), residing in the State of Washington, that explores their knowledge, attitudes and behaviors regarding prenatal care. This study adds to the sparse literature on health issues among indigenous immigrants from these regions and their health care utilization in the US (Lee, Donlan, Cardoso, & Paz, 2013; A. E. Maxwell et al., 2015; McCauley et al., 2013).

Importance of collecting disaggregated data from different indigenous communities

Indigenous communities in the US are sometimes described as “hidden” or “invisible” populations” (Lee et al., 2013; McCauley et al., 2013) and their data are sometimes combined with statistics on predominantly Hispanic farmworker from Mexico (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 2000; Hernandez, 2018), which can mask their special characteristics and needs. Our findings underscore that it is important to collect disaggregated data from different indigenous communities. These indigenous communities vary with respect to important demographic variables and determinants of health, such as length of stay in the US, household income and health insurance coverage. In our study region, Mixtecos began arriving in the early 1990’s. Many are now educated at the local colleges and universities, and are increasingly part of the societal structures of the local economy. Many traditional products from their villages are found in local stores, and a few stores are owned by Mixtecos. The Triqui began arriving shortly after the Mixtecos. Approximately 10–12 years ago, Awakatekos began to migrate to Whatcom County directly from Guatemala. This is reflected in our sample, with Mixtecs and Triqui having longer duration of residence in the US and higher Spanish literacy than Awakatekos. More recent arrivals (e.g., members of the Awakateko community) reported the lowest household income.

The Awakateko community is much smaller than the Mixteco community. However, all three communities have some informal networks. Each community comes together to support each other in calamities. For example, when someone passes away, members of that community provide financially support for the affected family. During natural disasters or emergencies, they tend to be self-sufficient. They may offer a room or couch to someone who needs a place to stay. They share food and help each other, and sometimes take care of each others’ children. Yet, they usually do not access local or state services because there is not a cultural intermediary to assist. Mixteco interpretation services are more widely available than support for other languages, because they have been in the area longest. Social and health service providers are relying on the children and grandchildren of these original settlers to serve as interpreters. This may be one of the reasons that Awakateko women are less aware of health care resources that are available to them than Mixteco and Triqui

women. In addition, longer duration of US residency, Spanish language skills and health insurance coverage can facilitate accessing health care, as women learn about available health care programs and are able to communicate with staff and providers. There are also substantial variations among indigenous communities with respect to structural barriers to access health care, cultural norms and practices, all of which can influence prenatal care utilization.

Even Spanish-speakers may need indigenous language support

We found some inconsistencies between self-reported Spanish language skills and language of interview. For example, only 58% of Awakateko women stated that they speak Spanish but 65% completed the survey in Spanish. On the other hand, 96% of Triqui women stated that they speak Spanish but only 34% completed the survey in Spanish. This suggests that self-reported Spanish speaking skills and language of survey completion has to be interpreted with caution. If a woman chose to complete the survey in Spanish, it may not be a reflection of her Spanish fluency. Several indigenous languages differ by region or town of origin to such an extent that translators found it necessary to provide separate versions of the same question to accommodate different dialects. It is possible, that women who may have preferred to complete the survey in their indigenous language were interviewed by someone who spoke a different dialect and therefore had to complete the survey in Spanish instead. Only one of the *promotoras* mastered multiple Mixteco dialects and was able to interview women who came from several different towns. In two prior surveys that were offered in indigenous languages and in Spanish to indigenous women in Oxnard, California, 47% and 71% of Mixteco women completed surveys in Mixteco (A. E. Maxwell et al., 2018; Young, Gomez, & Maxwell, 2019), compared to 27% of Mixteco in the current study. As Mixteco women in our study area came from 8 different towns with unique dialects, these variations in dialects spoken by interviewers and interviewees may have posed a problem. These findings underscore the importance and the challenges of providing language support for indigenous language speakers, especially if indigenous speakers are originating from different regions that have their own dialects.

While some clinics already provide interpreters for indigenous women, our data suggest that this service needs to be expanded. Clinics may need to work together to make sure that they have interpreters for all indigenous languages and dialects spoken by patients. Although a large proportion of women in our survey say that they speak Spanish, it is usually not their first language and their vocabulary may be limited, especially when it comes to medical terms and concepts that may not exist in their native language. English literacy amongst all respondents was so low that it is usually not an option for service providers. Women need language support to fully understand their diagnosis and the doctors' recommendations in order to comply with clinical advice.

Women face numerous barriers to access prenatal care

Our data suggest that many women hold perceptions that their friends and women “back home” do not seek prenatal care, probably due to economic, geographic, linguistic and cultural barriers that have been found in prior studies (Ibanez-Cuevas et al., 2015; Stollak et al., 2016). Our data partially support these perceptions: most younger women in our

sample (average age around 34 years) who became pregnant in the United States utilized prenatal care, while older women who had their children before coming to the United States tended not to receive prenatal care. Importantly, conceptions that their friends do not seek prenatal care did not appear to stop indigenous women in our sample from doing so, as more than 90% reported that they received prenatal care for their last pregnancy, and most within the first three months of their pregnancy. It should be noted, that this self-report is not consistent with the perception of local clinics, who are concerned about indigenous women not utilizing prenatal care in a timely fashion. Nevertheless, consistent with prior research among indigenous women in Mexico and in California (Ibanez-Cuevas et al., 2015; A. E. Maxwell et al., 2015; A. E. Maxwell et al., 2018), many women reported structural barriers to accessing prenatal care, did not know about free or discounted health care services that are available to them and some expressed concerns that going to the doctor during pregnancy could increase the risk of having a big baby or a cesarean section.

Women value prenatal health care

The majority of women in our sample had very positive attitudes about prenatal health care and thought that obtaining prenatal health care was very important for the baby's and the mother's health. Many women were also aware of the importance of a healthy lifestyle during pregnancy, such as eating a healthy diet and getting exercise. Fewer women volunteered that visiting a doctor and taking prenatal vitamins were important for pregnant women, but given that most women received prenatal care during their last pregnancy and given that most women considered a hospital as the ideal place to give birth, it appears that they value prenatal care, especially if they get help with overcoming structural barriers they face. This is consistent with a previous study in indigenous communities in Guatemala (Stollak et al., 2016) and in Mixteco and Zapoteco women in California (A. E. Maxwell et al., 2018).

Potential strategies to promote prenatal care utilization among indigenous women

Promotores and medical interpreters are important community assets and could take on additional responsibilities to facilitate health care access in these indigenous communities. Sea Mar's MSAW *Promotores* program has established itself as a trusted portal and a bridge to the community in which indigenous patients can be supported in accessing the services and information they need. It creates and offers workshops in Spanish and indigenous languages on many topics including how to access free and discount health care services, and reproductive health including breast and cervical health, the importance of mammograms, gynecological exams, pre-eclampsia, family planning and menopause. With support from medical providers, the information from this needs assessment and *promotores'* own experiences from interacting with indigenous women in health care and other settings, *promotores* could expand these workshops to include prenatal care and its importance and women's right to receive appropriate language support. These workshops could include testimonials from women who had a good experience when they use prenatal care and gave birth in one of the local clinics, which may dispel negative beliefs and concerns regarding risks for big babies and cesarean section. Workshops like these could help to spread information on this and other health issues in the indigenous communities and may over time change community norms and practices regarding prenatal care.

Workshops on health issues have been well received by other indigenous communities (McCauley et al., 2013; Young et al., 2019) and are consistent with the oral traditions of passing on information in these communities. If workshops are held in clinics, preferably with childcare provided, women and their family members would have an opportunity to become more familiar with the health care system that is available to them and may more readily embrace it during pregnancy or if they or a family member has a health problem. Other strategies for providing health-related information that have been successfully implemented in indigenous communities in Oregon and in California are low literacy booklets with information in a pictorial format, sociodramas or radionovelas that explain information in a story format that also provides some entertainment (A E Maxwell et al., 2021; McCauley et al., 2013).

Limitations

We interviewed a convenience sample of women from three indigenous communities. The small number of women from each of these communities may not be representative. Women who had a prior relationship with one of the five *promotoras* who conducted the interviews may have been more willing to complete the survey. Therefore, it is very possible that *promotoras* recruited a disproportionately large number of women who had received prenatal or other health care services, and this may explain the high proportion of women who had utilized prenatal care. In addition, responses may be affected by recall bias, especially among older women, and social desirability bias. For example, women may have over-reported receipt of prenatal care during the first three months of the pregnancy. *Promotores* informed us that women often are confused about provider specialties which could also affect their reporting of receipt of prenatal care. Although a lot of effort went into translating the survey into simple Spanish and three indigenous languages, we cannot rule out errors due to misunderstandings and incorrect translations.

Implications for Practice

Our findings highlight the importance of collecting disaggregated data from different indigenous community, and the important role of *promotores* and interpreters in providing indigenous language support. In general, indigenous women in our sample valued prenatal health care and many younger women who gave birth in the US reported using prenatal health care. Our study provides new information for developing messages to promote prenatal care that take into account the knowledge and beliefs that are prevalent in these communities. Workshops in indigenous languages and in Spanish in community settings may help indigenous women to overcome the many barriers to accessing health care that they face and are consistent with the oral traditions of passing on information. Clinics should hire additional interpreters who should make women aware of free and low-cost health care services that are available to them and assist with applying for these services.

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Biography

At the time of the study, Colleen Pacheco was the Special Populations Manager for Sea Mar Community Health Center. She managed the agency's Migrant and Seasonal Agricultural Worker Promotores Program and their Healthcare for Homeless program in Skagit and Whatcom Counties.

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Marcela Suarez Diaz is the Promotores Coordinator for Sea Mar's Migrant and Seasonal Agricultural Worker Promotores Program in Skagit and Whatcom Counties.

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Table 1:

Sample Characteristics of Indigenous Mexican and Guatemalan Women in Skagit & Whatcom Counties, Washington, 2017

Characteristics	Total Sample (N=82)	Mixteco (N=30)	Triqui (N=26)	Awakateko (N=26)
Age				
Mean	36 years	35 years	35 years	37 years
Median	42 years	42 years	37.5 years	41.5 years
Range	19–65 years	19–65 years	20–55 years	19–64 years
Interquartile Range	27–42 years	26–42 years	26–42 years	29–39 years
# of Years living in US				
Mean	12 years	15 years	14 years	6 years
Median	10 years	14 years	14.5 years	5 years
Range	1–28 years	2–28 years	2–23 years	1–16 years
Interquartile Range	4–15 years	10–22 years	10–17 years	2–10 years
15–20 years	53%	50%	81%	27%
Less than 5 years	25%	13%	8%	54%
Years of School				
Mean	5 years	5 years	5 years	5 years
Median	6 years	6 years	4.5 years	6 years
Range	0–14 years	0–12 years	0–14 years	0–13 years
Interquartile Range	0–9 years	3–8 years	0–9 years	0–10 years
1–3 years	9%	13%	4%	8%
No school	26%	13%	39%	27%
Spanish Literacy				
Speak	78%	80%	96%	58%
Read	76%	80%	69%	77%
Write	66%	77%	50%	69%
Native language Literacy				
Speak	89%	70%	100%	100%
Read	30%	23%	31%	38%
Write	22%	17%	15%	35%
English Literacy				
Speak	17%	27%	19%	4%
Read	31%	40%	23%	27%
Write	27%	40%	19%	19%
Percent completed survey in Spanish	58%	73%	34%	65%
Migrants ¹	30%	33%	38%	19%
Annual Household Income				
<\$10,000	43%	33%	42%	54%
\$10,000-\$25,000	34%	23%	46%	35%
>\$25,000	23%	44%	12%	11%

Characteristics	Total Sample (N=82)	Mixteco (N=30)	Triqui (N=26)	Awakateko (N=26)
Housing				
Rent	40%	37%	35%	50%
No cost employer housing	18%	17%	39%	0%
Own	6%	10%	0%	8%
Share with others outside family	4%	0%	0%	12%
Other ²	32%	37%	27%	31%
Has health insurance	42%	47%	27%	52%

¹Women who live in the area temporarily to either work in local agriculture or whose partner works in local agriculture. This also includes workers who live in local urban areas during the off season but move into camps during the harvest season.

²More than one choice marked, such as owning but sharing house with others, rent and share, or rent and live in farm housing.

Table 2:

Prenatal/Childbirth History of Indigenous Mexican and Guatemalan Women in Skagit & Whatcom Counties, Washington, 2017

	Total Sample (N=77)	Mixteco (N=30)	Triqui (N=24)	Awakateko (N=23)
# of pregnancies				
Mean	3.8	3.4	5.2	3.1
Median	3	3	5	2
Range	1–11	1–8	2–11	1–8
Interquartile Range	2–5	3–4	2–7	2–3
# of births				
Mean	3.5	3.2	4.5	2.9
Median	3	3	5	2
Interquartile Range	2–5	2–4	2–6	1–3
# of women with 6 or more births	15	2	10	3
# of women with any miscarriages	14	4	5	5
Women who received prenatal care for last pregnancy	91%	93%	96%	83%
Average age at the time of the survey of women who stated they accessed prenatal care				
in US (N=61)	34 years	34 years	34 years	30 years
outside US (N=9)	42 years	59 years	None	40 years
did not access anywhere (N=7)	51 years	44 years	55 years	53 years

Notes: 5 women who have never given birth are excluded from this table. 3 Triqui women had 6 babies die within their 1st year of life.

Table 3:

Barriers to Prenatal Care among Indigenous Mexican and Guatemalan Women in Skagit & Whatcom Counties, Washington, 2017

Structural Barriers	Total Sample (N=77)	Mixteco (N=30)	Triqui (N=24)	Awakateko (N=23)
Lack of money & insurance: "I did not have enough insurance or money to pay for visit"	23%	17%	5%	39%
Limited Language & Phone Access: "I had problems getting through on the phone to make an appointment"	22%	20%	17%	30%
Lack of Childcare: "I did not have childcare for my other children"	22%	23%	20%	26%
Lack of Transport: "I did not have transportation to get to the clinic or the doctor's office"	21%	13%	9%	22%
Lack of Knowledge: "I did not know where to go for prenatal care"	17%	17%	4%	22%
Hours of Operation: "I could not get an appointment when I wanted one"	16%	17%	4%	26%
Work/Time Restriction: "I could not take time off from work"	8%	3%	8%	13%
Cultural Norms and Practices				
"Back home, women don't go to the doctor when pregnant"	62%	60%	50%	77%
"None of my friends go to the doctor for prenatal care"	52%	17%	100%	46%
"Doctors here are not familiar with our customs regarding child birth"	50%	50%	31%	69%
"Going to the doctor during pregnancy increases the risk of a C-Section"	24%	23%	35%	15%
"I had other healthy births and felt no need to see a doctor"	18%	13%	25%	17%
"Going to the doctor during pregnancy increases the risk of a big baby"	17%	10%	27%	15%
Secret pregnancy: "I did not want anyone to know I was pregnant" ¹	17%	0%	12%	43%

¹ Indigenous interpreters wanted this question added to the survey as they felt it was relevant and served as a barrier for some women.

Note: Only women who had been pregnant responded to these true/false questions (N=77).

Table 4:

Knowledge and Beliefs related to Prenatal Health Care among Indigenous Mexican and Guatemalan Women in Skagit & Whatcom Counties, Washington, 2017

	Total Sample (N=82)	Mixteco (N=30)	Triqui (N=26)	Awakateko (N=26)
How important is it to go to the doctor during the first 3 months of a pregnancy				
...for the baby's health?				
Very important	89%	93%	77%	96%
A little important	9%	7%	19%	0%
Not important	1%	0%	4%	0%
Don't know	1%	0%	0%	4%
... for the mother's health?				
Very important	90%	90%	85%	96%
A little important	6%	10%	4%	4%
Not important	4%	0%	11%	0%
Don't know	0%	0%	0%	0%
What is the ideal place for pregnant women to give birth?				
Hospital	92%	97%	85%	92%
Home	5%	0%	8%	8%
Both	1%	3%	0%	0%
Other	2%	0%	8%	0%
If you were pregnant, and wanted to see a doctor, is it important that the doctor is a woman?				
Yes	60%	67%	50%	62%
No	39%	30%	50%	38%
Don't know	1%	3%	0%	0%
Do you know pregnant women can get free health care? (yes)	74%	87%	77%	58%
Do you know pregnant women can get free health care without a social security card? (yes)	63%	83%	65%	38%
Do you know about the discount program and pay according to income (sliding scale)? (yes)	68%	83%	61%	58%